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APPLICATION NO. 09/530,024	FILING DATE 03/22/04	CHATTER	FIRST NAMED INVENTOR S	ATTORNEY DOCKET NO. 24
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IM52/0322

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ART UNIT

PAPER NUMBER

03/22/04

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

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<p align="center"><b>Office Action Summary</b></p>	Application No. 09/538,024	Applicant(s) CHATTERJEE ET AL.	
	Examiner Monique R Jackson	Art Unit 1773	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- |  |  |
|--|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                 | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)        | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 20) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 recites the limitation "the diacrylate ester of an alkanolglycidyl ether is 1,4-butanedioldiglycidyl ether and the diacrylate ester of an ethoxylated aromatic epoxide" in lines 1-3. This limitation is unclear for it appears as if the diacrylate is two different compounds. If they are in fact two different compounds, then the limitation should be written in the alternative, ie. the term "and" should be "or". It is also noted that "ethoxylated" is misspelled.

3. Claims 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 recites the limitation "the ethoxylated aromatic epoxide contains 6 to 20 ethoxy groups" in lines 1-2. However, the claim provides no basis for this calculation, ie. 6 to 20 ethoxy groups per repeat unit, per mole, etc.

4. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 recites the limitation "wherein water is present in an amount ranging from about 5 weight % to about 25 weight %" in lines 1-2. However, the claim provides no basis for this calculation, ie. based on the total coating composition, based on the total weight of the acrylate and the water, etc.

5. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 16 recites the limitation "the substrate" in line 1. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 33 recites the limitation "the diacrylate ester of an alkanolglycidyl ether is 1,4-butanedioldiglycidyl ether and the diacrylate ester of an ethoxylated aromatic epoxide" in lines 1-3. This limitation is unclear for it appears as if the diacrylate is two different compounds. If they are in fact two different compounds, then the limitation should be written in the alternative, ie. the term "and" should be "or". It is also noted that "ethoxylated" is misspelled.

7. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 34 recites the limitation "the ethoxylated aromatic epoxide contains 6 to 20 ethoxy groups" in lines 1-2. However, the claim provides no basis for this calculation, ie. 6 to 20 ethoxy groups per repeat unit, per mole, etc.

8. Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 35 recites the limitation "wherein water is present in an amount ranging from about 5 weight % to about 25 weight %" in lines 1-2. However, the claim provides no basis for this calculation, ie. based on the total coating composition, based on the total weight of the acrylate and the water, etc.

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***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

10. Claims 1-19, 27-42, 44 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Stevenson et al (USPN 6,087,417.) Stevenson et al teach an aqueous, solvent based or solventless curable coating composition comprising an epoxy resin/acid/tertiary amine reaction product with a reactive diluent such as mono- and di-esters of polyalkylene ethers, polyalkylene glycol mono(acrylates), polyalkylene glycol di(meth)acrylates, and lower alkoxy polyalkylene glycol (meth) acrylates, and optionally a curing agent such as photoinitiators (Abstract, 7:43-55; 8:37-38.) The compositions are useful for forming cured coated substrates that are especially suitable for food and beverage packaging (Abstract.) Stevenson et al teach that there is a continuing need for improved low viscosity coating compositions that can be applied to a substrate with excellent coating characteristics (1:65-67.) For aqueous based systems, water is added to produce a fully dissolved or dispersed aqueous coating composition capable of being applied to the substrate using conventional application equipment (2:38-42.) The coated substrate may initially be exposed to a radiation source, preferably ultraviolet light, causing any unsaturated carboxylic acids and any unsaturated diluents within the coated substrate to polymerize to form a polymerized coated substrate (2:42-48.) Stevenson et al teach that the term "polymerization" or "polymerizable" denotes the curing or crosslinking of the coating

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composition after a coated substrate is exposed to radiation such as ultraviolet or electron beam, heat or other means of initiating polymerization (3:14-17.) The aqueous coating composition is typically formulated to have a # Ford cup viscosity of about 15 to about 75 seconds at 25°C with a solids content of about 25 to about 45wt% (which is inherently within the instantly claimed range, 10:22-24.) Up to 70wt% water can be employed as plate wetting agents and as necessary to lower viscosity when using conventional application equipment such as roll coaters and the like (10:27-30.) Particularly useful substrates include wood, metals such as aluminum, stainless steel, hot rolled steel, galvanized steel coil, and sheet metal, as well as polymeric materials such as polyesters, acrylic polycarbonates, polyolefins, epoxy polymers and the like, in the form of sheets, strips or coils (1:21; 10:33-44.) If desired, the coated substrate can be dried prior to polymerization and heating, however, usually this drying step is neither necessary nor desirable (10:45-50.) During exposure to ultraviolet or electron beam radiation, any unsaturated groups in the coating composition polymerize (11:5-7.) Low solvent coating compositions can be produced with a minor amount of an organic solvent and/or water, preferably less than 30wt% may be added to improve processability, and may include other additives such as pigments, dyes, or other coloring agents, preservatives, and plasticizers (11:34-12:11.) The epoxy resin is preferably an aromatic polyether-based epoxy such as Bisphenol type resins like ethoxylated BPA, and the acid includes  $\alpha,\beta$ -ethylenically unsaturated carboxylic acid(s) (5:3-7; 5:66-67; Examples.) In terms of the extractable amount, the Examiner takes the position that the invention taught by Stevenson et al, which is especially useful for food and beverage packaging, would inherently have an uncured residue amount within the instantly claimed range given that the coating composition and curing method are the same as the instantly claimed invention.

*Claim Rejections - 35 USC § 103*

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 20, 22-26, 43, 45-47, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevenson et al. The teachings of Stevenson et al are discussed above. Stevenson et al teach that the substrate may be a polyolefin but does not specifically teach polyethylene or polypropylene. However, polyethylene and polypropylene are obvious species of polyolefin that would have been obvious to one having ordinary skill in the art at the time of the invention based on the teachings of Stevenson et al. In regards to the extractable content and method of measuring the extractable content, the Examiner takes the position that is well known in the food packaging art to determine extractable amounts in packaging materials utilizing a standard measuring process such as the process instantly claimed, and in the absence of a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize any standard measuring process to determine the extractable amount for health related reasons of the food packaging material taught by Stevenson et al.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Li Bassi et al (USPN 5,168,087) teach an aqueous dispersion useful as a coating of food-wrappings, direct or indirect, wherein a water evaporation step is optional. Beck et al

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(USPN 5,442,090) teach a radiation-curable urethane acrylate compound that may be emulsified in water whereby curing can be effected by UV radiation or electron beams.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428.

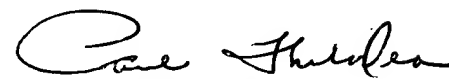
The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5436 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



mrj  
March 20, 2001



Paul Thibodeau  
Supervisory Patent Examiner  
Technology Center 1700